

IN THE CLAIMS:

1. (Re-presented - formerly dependent claims 40 and 41) A method of fabricating a MEMS structure, comprising the steps of:

- (a) forming a recess in an upper surface of a substrate;
- (b) attaching an etchable wafer to the upper surface of the substrate, including a wafer portion from which a movable structure will be formed, the wafer portion being positioned over the recess; and
- (c) etching downward in the wafer around the periphery of the movable portion to break through in to the recess, thereby releasing at least part of the movable structure from the substrate without the need for substantial undercutting-
wherein step (c) creates a first stationary conductive element and a variable size gap between the movable structure and the stationary conductive element.

2. (Original) The method as recited in claim 1, further comprising depositing a conductive layer onto the wafer.

3. (Original) The method as recited in claim 2, further comprising depositing a protective layer onto an upper surface of the conductive layer.

4. (Original) The method as recited in claim 2, wherein the conductive layer is selected from the group consisting of aluminum, copper, silver, gold and nickel.

5. (Original) The method as recited in claim 3, wherein the protective layer is selected from the group consisting of silicon dioxide and silicon nitride.

6. (Original) The method as recited in claim 1, wherein the wafer is selected from the group consisting of silicon, silicon carbide and gallium arsenide.

7. (Original) The method as recited in claim 1, wherein the substrate is a non-conductive substrate selected from the group consisting of glass, high resistivity silicon, crystalline sapphire, and ceramic.

8. (Original) The method as recited in claim 1, wherein the substrate is a conductive substrate selected from the group consisting of silicon, silicon carbide, and gallium arsenide.

9. (Original) The method as recited in claim 1, wherein the recess has beveled edges.

10-39. Withdrawn

40. Cancelled

41. Cancelled

42. (Currently Amended) The method as recited in claim 1 40, further comprising the step of forming an intermediate layer between the stationary conductive element and the substrate, wherein the intermediate layer is selected from the group consisting of silicon, poly-crystalline silicon, amorphous silicon, silicon carbide and gallium arsenide.

43. (Previously Added) The method as recited in claim 1, further comprising the step of forming a base layer that forms a lower surface of the movable structure.

44. (Previously Added) The method as recited in claim 43, wherein the base layer is selected from the group consisting of silicon dioxide and silicon nitride.

45. (Previously Added) The method as recited in claim 1, wherein the recess has beveled outer edges.

46. (Currently Amended) The method as recited in claim 1 40, wherein step (c) further comprises forming a second stationary conductive element extending outwardly from the substrate, wherein the movable structure is disposed between the first and second stationary conductive elements.

47. (Previously Added) The method as recited in claim 46, wherein the first and second stationary conductive elements are electrically isolated from each other.

48. (New) The method as recited in claim 43, wherein the base layer is insulating.

49. (Re-presented - formerly dependent claim 43) A method of fabricating a MEMS structure, comprising the steps of:

(a) forming a recess in an upper surface of a substrate;

(b) attaching an etchable wafer to the upper surface of the substrate, including a wafer portion from which a movable structure will be formed, the wafer portion being positioned over the recess; and

(c) etching downward in the wafer around the periphery of the movable portion to break through in to the recess, thereby releasing at least part of the movable structure from the substrate and forming a base layer that forms a lower surface of the movable structure without the need for substantial undercutting.

50. (New) The method as recited in claim 49, further comprising depositing a conductive layer onto the wafer.

51. (New) The method as recited in claim 50, further comprising depositing a protective layer onto an upper surface of the conductive layer.

52. (New) The method as recited in claim 50, wherein the conductive layer is selected from the group consisting of aluminum, copper, silver, gold and nickel.

53. (New) The method as recited in claim 51, wherein the protective layer is selected from the group consisting of silicon dioxide and silicon nitride.

54. (New) The method as recited in claim 49, wherein the wafer is selected from the group consisting of silicon, silicon carbide and gallium arsenide.

55. (New) The method as recited in claim 49, wherein the substrate is a non-conductive substrate selected from the group consisting of glass, high resistivity silicon, crystalline sapphire, and ceramic.

56. (New) The method as recited in claim 49, wherein the substrate is a conductive substrate selected from the group consisting of silicon, silicon carbide, and gallium arsenide.

57. (New) The method as recited in claim 49, wherein the recess has beveled edges.

58. (New) The method as recited in claim 49, wherein step (c) further comprises forming a first stationary conductive element extending outwardly from the substrate.

59. (New) The method as recited in claim 58, wherein step (c) further comprises forming a variable size gap between the movable structure and the stationary conductive element.

60. (New) The method as recited in claim 58, further comprising the step of forming an intermediate layer between the stationary conductive element and the substrate, wherein the intermediate layer is selected from the group consisting of silicon, poly-crystalline silicon, amorphous silicon, silicon carbide and gallium arsenide.

61. (New) The method as recited in claim 49, wherein the base layer is selected from the group consisting of silicon dioxide and silicon nitride.

62. (New) The method as recited in claim 49, wherein the recess has beveled outer edges.

63. (New) The method as recited in claim 58, wherein step (c) further comprises forming a second stationary conductive element extending outwardly from the substrate, wherein the movable structure is disposed between the first and second stationary conductive elements.

64. (New) The method as recited in claim 63, wherein the first and second stationary conductive elements are electrically isolated from each other.

65. (New) The method as recited in claim 49, wherein the base layer is insulating.

66. (Re-presented - formerly dependent claims 40 and 46) A method of fabricating a MEMS structure, comprising the steps of:

- (a) forming a recess in an upper surface of a substrate;
- (b) attaching an etchable wafer to the upper surface of the substrate, including a wafer portion from which a movable structure will be formed, the wafer portion being positioned over the recess; and
- (c) etching downward in the wafer around the periphery of the movable portion to break through in to the recess, thereby releasing at least part of the movable structure from the substrate, and forming first and second stationary conductive elements extending outwardly from the substrate, wherein the movable structure is

disposed between the first and second stationary conductive elements, without the need for substantial undercutting.

67. (New) The method as recited in claim 66, further comprising depositing a conductive layer onto the wafer.

68. (New) The method as recited in claim 67, further comprising depositing a protective layer onto an upper surface of the conductive layer.

69. (New) The method as recited in claim 67, wherein the conductive layer is selected from the group consisting of aluminum, copper, silver, gold and nickel.

70. (New) The method as recited in claim 68, wherein the protective layer is selected from the group consisting of silicon dioxide and silicon nitride.

71. (New) The method as recited in claim 66, wherein the wafer is selected from the group consisting of silicon, silicon carbide and gallium arsenide.

72. (New) The method as recited in claim 66, wherein the substrate is a non-conductive substrate selected from the group consisting of glass, high resistivity silicon, crystalline sapphire, and ceramic.

73. (New) The method as recited in claim 66, wherein the substrate is a conductive substrate selected from the group consisting of silicon, silicon carbide, and gallium arsenide.

74. (New) The method as recited in claim 66, wherein the recess has beveled edges.

75. (New) The method as recited in claim 66, wherein step (c) further comprises forming a variable size gap between the movable structure and the stationary conductive element.

76. (New) The method as recited in claim 67, further comprising the step of forming an intermediate layer between the stationary conductive element and the substrate, wherein the intermediate layer is selected from the group consisting of silicon, poly-crystalline silicon, amorphous silicon, silicon carbide and gallium arsenide.

77. (New) The method as recited in claim 66, further comprising the step of forming a base layer that forms a lower surface of the movable structure.

78. (New) The method as recited in claim 77, wherein the base layer is selected from the group consisting of silicon dioxide and silicon nitride.

79. (New) The method as recited in claim 66, wherein the recess has beveled outer edges.

80. (New) The method as recited in claim 66, wherein the first and second stationary conductive elements are electrically isolated from each other.

81. (New) The method as recited in claim 78, wherein the base layer is insulating.